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ABSTRACT

The computer represents an instrument of change for students and teachers alike. For most students learning to use the computer to write, the writing process is temporarily more difficult and stressful and capable of creating a highly charged, emotional trauma for the writer. The constraints of learning what keys to push and how to get out of trouble when the wrong keys are pushed interferes with the writing process. Students must have a fairly strong ego and an even stronger sense of determination to be willing to risk making mistakes, to continue making mistakes, and yet not let these factors interfere with their learning process. Not all students can comply under these trying conditions. Some become demoralized so quickly that rather than directing their energies at the learning tasks, they immesh themselves in dysfunctional behavior patterns, creating new obstacles to their learning. The teacher's role becomes more like a coach than anything else. The important thing to teach computer using writers is that mastery of a word-processing program requires a willingness to interact, to explore, and to experiment. Rather than requiring that certain activities be done, the teacher can demonstrate processes, make suggestions, and expand the students' awareness of alternatives available to them. (HOD)

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The Computer in the English Class:

The Changing Role of the English Teacher

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The Computer in the English Class:
The Changing Role of the English Teacher

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Many authors writing about the computer in education point out that it is simply another device like an overhead projector or tape recorder, an aid like other aids to help the teacher. By slotting the computer into a known category, no doubt they're hoping to demystify it and make it more acceptable -- less threatening -- to the teacher.

But for those of us who are attempting to use the computer as a tool for writing, who are attempting to highlight its powerful uniqueness and its potential for creating change, both in the learning process and in the teaching process, this analogy does not work. Unlike other aids, which cause little if any anxiety or stress and require little training to use effectively, using a computer as word processor necessitates new technical skills on the part of students and teachers alike and a willingness to explore, experiment, and -- most importantly -- to make mistakes. The computer used as a tool -- because of its newness, because of its awesome potential, and because of its complexity -- demands of the teacher new sensitivities and a responsiveness to what is happening in her classroom. Comparing the computer to previous teaching aids fails to prepare teachers for the various consequences -- both positive and negative -- that introducing it can incur.

If the computer is not just another teaching aid, what is it? In trying to think of a more appropriate analogy, a book, Human Problems in Technological Change, edited by Edward Spicer, comes to mind. You might imagine that this is a book about the information age, high technology, and microcomputers. You may be amused to learn that it is about "Eskimo Herdsmen," "The Wells that Failed," and "Steel Axes for Stone Age Australians." It is about the difficulties and the complexities of people adjusting to technological change, about people resisting the introduction of wells or embracing the technology of steel axes. And so it speaks to our problem. Those steel axes created unexpected and unsettling consequences reaching into the very fiber of interpersonal relationships in that community just as our new tools, our microcomputers, are having far-reaching consequences in our society and in our classrooms. And like the Stone Age Australians we are probably as ill-equipped to meet the complex demands of this new situation as they were. The computer, a concrete manifestation of the information age in our schools, represents an instrument of change for students and teachers alike.

In my talk today I will explore my changing role as an English teacher using the computer to teach writing. My examples will be from a high school writing class that I studied ethnographically, and from a college composition course I'm teaching this year to second language learners using the computer. I am going to highlight some of the difficulties, rather than the successes, I confronted and ways I attempted to resolve them, for reasons that I hope will become evident.

As you already know, the use of word processing to teach writing has received a fine press. Ever since Seymour Papert claimed four years ago in his best-selling book, Mindstorms: Children, Computers and Powerful Ideas, that word processing and programming were the two most powerful educational applications of the computer, the idea of using word processing to teach writing has become increasingly popular. The proliferation of microcomputers in schools has permitted the teaching of writing on computers to blossom from fantasy to reality. I'm sure most of you have read -- and some of you have probably written -- that writing on the computer is easier -- easier to catch the idea flow, easier to revise, easier to edit, -- and that it produces neater, less confusing, more professional-looking writing. You may have read or heard that adults experience difficulties switching from pencils to word processing, while children do not. Some may even believe that after a few hours spent learning to word process and the poorest writers will reap benefits.

At the risk of sounding cantankerous, maybe even subversive, I am going to assert that for most students learning to use the computer to write -- and I believe this is true whether these are children, adolescents, or adults -- the writing process is, at the very least, temporarily more difficult and stressful and at the most, capable of creating a highly charged, emotional trauma for the writer. I hope you will notice that I am not attempting to contradict assertions about the ease of writing and revising on a computer. I, too, love my computer. Rather I am pointing out that the ease everyone is talking about comes after the mastery, or at least, after some level of competence with the equipment and

with the program, and not usually during the early part of the learning process.

I would like to repeat this point. It is my belief that initially the computer makes writing harder. It can compound fears and concerns about writing with new anxieties involving learning how to use the computer. The constraints of learning what keys to push and how to get out of trouble when you have pushed the wrong keys interferes with the writing process. As one of my students using The Bank Street Writer said, "Sometimes I decide to make a change but by the time I get from 'Write' mode to 'Erase' mode, move the cursor with the arrow keys to where I want to make the change, switch from 'Erase' mode back into 'Write' mode, and erase the text with the arrow keys, I may forget what I want to say." The difficulties of the writer who is learning a word processing program need to be understood, I believe, because they are infrequently stated. Obviously this issue has important pedagogical ramifications for the teacher of English.

Some people deal much less well with frustration than others, and learning how to word process is frequently -- even when the program is supposedly easy to learn such as The Bank Street Writer -- a frustrating, even humbling, experience. The learner must come to terms with strange, new, phenomena: writing that magically appears and disappears, that moves about in seemingly unpredictable ways, a machine that will not perform unless the command given to it is absolutely exact. Almost-right commands are either noncommands or worse, they cause something unexpected to happen, perhaps something disastrous to your writing, and maybe also to your composure. The learner may feel mired in hostile

lands, helpless to stop what is happening or to fix it up after the damage is done. Some of my students, of course, learned with a minimum of discomfort, quickly becoming zealous converts. One high school girl claimed after just one week of word processing that it made writing easier for her than using a pen, "My mind goes faster than my pen does. When ideas come then I can catch them better." However, others went through weeks of discomfort and distress.

Floyd, one of my high school students, wrote in his journal after two and a half weeks, "Today I sat there on the computer. Trying to do my writing and the words were moving around so I just sat in my seat. I stayed in my seat for awhile and then I got up and watched the people for awhile."

I asked my second language learners after they'd had nine and a half hours of word processing instruction, to open a file called "fun", write their name and two silly sentences, save it, then print it out. The amount of stress one student was feeling is evident from her response:

"I don't know how to operate the computer. I am so scared. I know this is not funny at all. But some people might be thinking it is funny because it is so easy. They are doing so well, but I can't Oh, my God what I am doing? I supose to write down a funny thing. I guess there is nothing in my mind except computer. I feel sorry myself."

Carmen, one of my high school students, put it this way:

"At first I was really uncomfortable, I wasn't familiar with any of that stuff. At times I just felt like sitting there, not doing nothin, I felt so frustrated. Things I know, I know how to

do. I've always known how to do them. Things I can't do, I don't want to do. I just don't want to be bothered."

The learning process appears to vary greatly from student to student for complex reasons. Of the eight high school students in my writing class using the computer as the tool last year, three learned word processing slowly. Two eventually dropped out, after about a semester, and before they could operate the program without frequent difficulties. The third one, while she learned to function independently with the basic commands, never fully explored or mastered the range of options. These students had difficulties even though they usually had access to a computer every day, 40 minutes a day, five days a week and inspite of a good deal of individual attention, made possible by the small size of the class.

There are many factors involved. One is that students have heard, just as we have, about the computer's marvelous powers. Some of my students believed that their future depended upon success with this machine. All of the my students initially came to class, not with the apathy I am accustomed to dealing with, but highly motivated to perform well, to succeed. Those who experienced prolonged difficulties were probably no more prepared than I was to deal with this unexpected complication. The higher the value placed on being successful in this learning experience, the more difficult it may be for some students to deal with frustrations in the learning process.

Another factor is that the computer used as a tool, because it represents new ways of learning, emphasizes students' problem-solving strategies -- or their lack of them -- and makes

their learning processes highly transparent. Students are laid wide-open, their learning difficulties as exposed as their writing, shimmering like green xrays up on their computer monitors. Students who have experienced learning problems in the past, appear to be the most vulnerable. They may have spent a lifetime perfecting strategies to hide their problems in the classroom, their reading and writing difficulties and now, suddenly, their traditional defenses are ineffective, their worst fears realized: they can be seen struggling to learn. One must have a fairly strong ego and an even stronger sense of determination to be willing to risk making mistakes, to continue making mistakes, -- highly visible mistakes at that -- and yet not let these factors interfere with your learning process. Not all students under these trying conditions can comply.

The task of learning word processing while learning to write appears to overload and overwhelm some students. One of my students would cross his hands over his monitor and shout out, "Don't read this," if someone approached. When he got more proficient, he might press the "Return" key rapidly in order to scroll his text away, leaving only a blank screen. In one of his journals he wrote:

"Today I worked on the computer all day and when the teacher came over and I erased it because I was writeing about myself and my proublems I have thats why I didn't want you to see it. 'Sorry about that.' And then I started another one about my life. The past and the fewture and what I do all every day. I didn't feel comterbale saying something like that to a teacher. I feel more comferble doing the one I'm doing now."

Another student frequently put secret passwords on files -- an option in The Bank Street program -- so no one could read them.

These same students tended to compare themselves unfavorably to what other students in the class were doing and became distressed by what they perceived to be the easy successes of the others compared to their difficulties. One said she was not smart enough to learn word processing. All three students seemed to use one or more counterproductive learning strategies. One girl who had difficulty interacting with the computer and also in asking for help, often sat staring for long periods of time at her monitor. Frustrations for certain students turned into anger or avoidance behaviors: a girl cut class regularly and a boy returned to a former drug involvement, coming to class high.

The point is that the positive results I believed possible, while they did become realities for some of my students, were not achieved by everyone. My surprise was not that some students learned more slowly than others; I expected this. My surprise was that some students became demoralized so quickly in this learning environment. Rather than directing their energies at the learning tasks, they seemed to immesh themselves in dysfunctional behavior patterns, creating new obstacles to their learning, a situation I had never anticipated. As I found myself confronting their continuing sense of failure to learn "as fast as the others," I found I also had to confront my own troubled feelings of failure as their teacher, unable to significantly mitigate their distress.

I wondered what I could do to help these students who were

experiencing difficulty. What strategies and assumptions was I making that were not helpful to them? What new approaches might be devised that might be more beneficial? Was it primarily a reading problem, since the directions for operating the program appeared on their monitors? Was it a memory problem, an inability to retain what they did? Was it a problem of conceptalizing a framework to fit the steps of the processes into? If it were a reading problem, I theorized they would become familiar with the basic instructions with repeated use, so I read the directions to them as I worked with them, pointing out each word as I read. I repeatedly pointed out the logic behind the commands, in an effort to help them form a framework to build on. But as time passed I became aware that they did not appear to become more proficient reading and following the directions on their own.

I brought these students together to talk to me informally when I felt pressure was building up, and I encouraged them to make suggestions. They told me I wasn't helping them enough. I spent increasingly longer amounts of time with them, sometimes several days in a row. However, while this often seemed to relieve the writer's immediate anxiety and let him or her function successfully under my direction, it did not seem to result in a carry-over that allowed them to work more effectively by themselves. Since I could not be there for each of their individual problems all of the time, I suggested pairing them with students who had become comfortable using the program but this was refused. These students found it difficult to ask for help, and I became alert to reading their body language and their computer screens for signs that they were having trouble. I continued to

analyze the process I was using with them and I improvised strategies, such as getting them to read the directions on the screen aloud, before they did a command. For reasons I don't yet clearly understand, this resulted in the students pressing the correct keys.

I was vaguely aware that this might be more than a problem of skills or ability. The students talked in our rap sessions negatively about the other students. They said those students didn't talk to them, didn't relate to them. They criticized the teachers in the school for never helping them, for not caring about them, for only helping the "good" students. They each talked about their home lives, alluding to serious personal problems that they said got in the way of their being able to work at school. It was as if all their problems, past and present, were amplified by their frustrations in trying to learn how to use the computer.

One of the reasons, among other things, that makes this teaching so complex, is that learning how to word process is a bit like learning how to ice skate or ride a bike, it is a matter of balancing a multitude of interrelated, often subtly coordinated, mental and physical activites requiring trial and a certain degree of error on the part of the learner. No one becomes a really good skater without a lot of falling down. While someone may provide assistance, like all complex learning, the learner ends up having to do most of it him or herself. Although some aspects of the process of teaching writing on computers might be presented in discrete steps for the student to follow in a linear way, for the most part word processing, which is a recursive an interactive

activity, cannot be completely taught in a linear way. Learning a skill like this, where incorrect commands may send the user into uncharted territory, must by its very nature, be an activity that the student learns interactively. The teacher's role becomes more like a coach than anything else.

One clear advantage at the end of this learning process, of course, is that the student, beyond learning a particular program, learns the process of learning, the art of interacting with the computer, learns to learn within the program's "rules." This is a very critical point, since perhaps the only thing we can be certain of in this era of rapid technolgical change, is that the computer software and hardware our students use today will not be what they will use tomorrow, even if the problems of compatibility are some day worked out. One of the most important things we have to teach our computer-using writers, in my opinion, is that mastery of a word-processing program requires a willingness to interact, to explore, and to experiment with it. They must learn that there is no such thing as a "mistake", that almost anything that goes awry can be fixed.

Some of my students appeared almost instinctively to acquire an interactive flexibility, learning what they needed to know as they went along, using the available resources -- the program's tutorial, the directions on the screen, the teacher and other students, the program's manual, and most importantly, their previous experiences with the program -- to guide them. While others, as I have tried to show, ran into difficulties.

Concurrent with the students' learning process, was my own learning process. I was learning this particular word processing

program with only a two-week headstart on them. Although I had just spent a year and a half in graduate school learning, among other things, a good deal about computers, I found myself dealing daily with technical problems that I had never dealt with before: a disk that wouldn't load into one computer but would into the others, a poem that I couldn't help a student format the way he wanted to, an electronic typewriter/printer that would unpredictably print out "Condition 5" on a student's paper instead of the requested file. I encouraged the students to become involved in these dilemas and some became impressive troubleshooters. I felt that this teaching strategy had the multiple purpose of speeding up the time spent finding solutions, sometimes before the teacher could, while giving problem-solvers a sense of satisfaction; it expanded students' problem-solving abilities; and it let me model for students, especially those who were finding it hard to ask others for help, that the teacher also needed to ask for assistance to get things done. Yet these revelations, these moments of inexpertise, coupled with my flagrant persistance in not hiding them, may have caused some learners who are more comfortable with the role of teacher-as-ultimate-authority, to lose confidence in my ability to help them.

Compounding my concerns about how to deal adequately with technological problems and how to help students who were not progressing to their satisfaction with word processing, I had my own growning concerns about how to teach the writing process, given this new learning context. Although I believed that too much emphasis on writing per se in the early stages when students

were coping with the technology was ill-advised, my goal was to teach writing, not just word processing. As time past and their word processing prof ciencies increased, I found myself wondering how to shift the focus of the course for those who had not already done this from an involvement with the technological aspects to writing. How could I create for all students a full-blown writing course?

Students were free to write on any topics and in any genre that they liked in my experimental class but during the first few weeks most chose to do writing required by their other classes. This presented frustrations since students found they could rarely meet their deadlines using this new technology. At one point, about a month after starting to write with computers, all the students were making designs -- sleighs, Santas, Christmas trees, snowmen. While I attempted to remain receptive and to achieve an appreciation for the value of these effo_ts and the role they might be playing in the students' learning processes, I was concerned. What should I do to help my students discover the joys of writing?

I taught mini-lessons to them off the computers and created an "Idea File" of writing with pieces of writing intended to stimulate topic ideas for students who needed them. I read excerpts from stories and novels; asked them to do character sketches; wrote with them; had them do quasi-meditational activites prior to writing; read them poetry; encouraged them to read their writing to the group; read some of mine; involved them in creating an intra-class newspaper with my sophomore English students, discussed various poetic forms, informed them of

upcoming student writing contests; brought in a poet to do a three-day workshop with them, involved them in free-writing exercises both on and off the computer, and in general strived to create a climate that encouraged the exploration of writing. Some of these activites were more successful than others.

I tried to resist making the assumption that my process using the computer to write should be theirs. Since little is known about teaching writing this way and since there are no authoritative guides to turn to for help, the temptation to superimpose one's own process is strong. I write poetry in pencil, not on the computer. Yet my high school writers liked writing poetry that way. Many had never written poetry before and one student claimed that it was the computer's suitability that had encouraged her to try it. I harbored the misconception that students would want to print out their work frequently, and would prefer, at least initially, making revisions on paper since that had been a stage for me in learning to write on computers. But most of my students chose not to revise on paper but on the screen. They made printouts of their work when they felt it was finished or when they had to take it with them because of a deadline.

I have heard teachers say that the computer should only be used for revisions. However, all of my students would sometimes compose directly on the computer without notes of any kind and some students consistently wrote this way. Part of my personal composing strategy at the beginning of a writing session is to go directly to the beginning of a file I am working on and read my way through, making revisions as I go. While some students use

this strategy, others go directly to the end of their files, reading only the last paragraph. When I asked a student about this strategy she said, "I've been thinking about my topic since yesterday, thinking of things to say. I don't want to forget them." Another student said, "I have so many problems that I'd never get to write anything new if I read and revised first." I tried to strike a balance between teaching students, yet not imposing a particular process on them. I believe they should discover what works for their needs as writers. This strikes me as essentially the same teaching problem we face in teaching writing without computers -- how much, if any, process should we impose, and how much should we let the student evolve and discover?

There are many more issues that affect the teaching process in this environment; I have only hinted, for example, at the importance of collaboration, at the revision process, or at the role of play. I hope, however, I have given enough of a sampling to indicate the range of complexity that I have confronted using the computer to teach writing.

Essentially, my role as an English teacher in a computer-rich classroom in terms of the very broadest functions did not change. I attempted to create an environment supportive of the goals of the course, to help the learner when he or she experienced difficulties, and to stimulate and challenge learners to go beyond themselves. One major change in my role, however, was to encourage each student to become responsible for his or her own goals. I tried to resist imposing my preconceived notions about what they should do, how they should do it, or how long it should

take them. Rather than requiring that certain activities be done, I demonstrated processes, made suggestions, and tried to expand the students' awareness of alternatives available to them. This strategy was more successful with some students than with others. Some thrived on this freedom, others were disconcerted by it. Some needed much more direction. Thererore, I periodically interjected teacher-created goals and activites, to help students expand their awareness of what was possible. Teaching in this context involved more than the acquisition of new information or the improvement of existing academic skills typical of regular classes. In this environment some students needed guidance in creating new interactional strategies to deal effectively with the technology; some needed encouragement and guidance to work with others collaboratively; some needed emotional, almost therapeutic, support in order to deal with their anxieties and frustrations.

Teaching writing on computers is a pedagogy in its infancy. So much is exploratory and experimental. I know for example that I have never felt so challenged, and at times so incompetent and frustrated, as I have using the computer in the classroom. And yet at the same time I have never felt so exhilarated. One of our major concerns as English teachers willing to use computers should be to modify our practices based on what students say and do in our classrooms, including the ones who do not conform to our expectations and whose learning difficulties seem to defy our most strenuous efforts. We need to listen especially to those students, if we hope to understand the complexity of this process for them and, therefore, what changes to make in our own roles. Like Stone Age Australians with new steel axes, we are facing a

period of exciting technological change. Yet if we are not careful, we risk intensifying rather than ameliorating the learning difficulties of the same students our system of education has traditionally failed. The computer should not become one more way we disenfranchise some students from our educational system and from our society.